Rheem Australia Pty Ltd Document control header

Title: - Service Instructions for Rheem Heavy Duty Electric Water Heaters	Document Number: - TM014

Revision	Details of change	D.O.I.
A	Service Instructions issued for Rheem Heavy Duty Electric Models	07/02

ELECTRIC

RHEEM AUSTRALIA PTY LTD

SERVICE INSTRUCTIONS
TM014

HEAVY DUTY
ELECTRIC WATER HEATERS

MODELS
613050
613315
616315
610340 – Storage Tank

Rheem Australia Pty Ltd **ABN 21 098 823 511**
Revision: A **Published: July 2002**

SAFETY WARNING

The purpose of this Service Manual is to provide sufficient information to allow a person with the skills as required by the controlling Regulatory Authorities to carry out effective repairs to a Rheem Heavy Duty Electric Water Heater in the minimum of time.

Safety precautions or areas where extra care should be observed when conducting tests outlined in this manual are indicated by print in ***bold italics*** and/or a warning symbol. Take care to observe the recommended procedure.

Certain diagnostic procedures outlined in these service instructions require "live" testing to be conducted. Personal Protective Equipment (PPE) should be worn when conducting these tests to prevent the risk of electric shock.
WARNING: Voltages up to 415 volts AC may be present (Refer to the Rheem Safety Procedure on electrical testing)

INTRODUCTION

The information provided in these instructions is based on the water heater being installed in accordance with the Installation Instructions provided with each water heater.

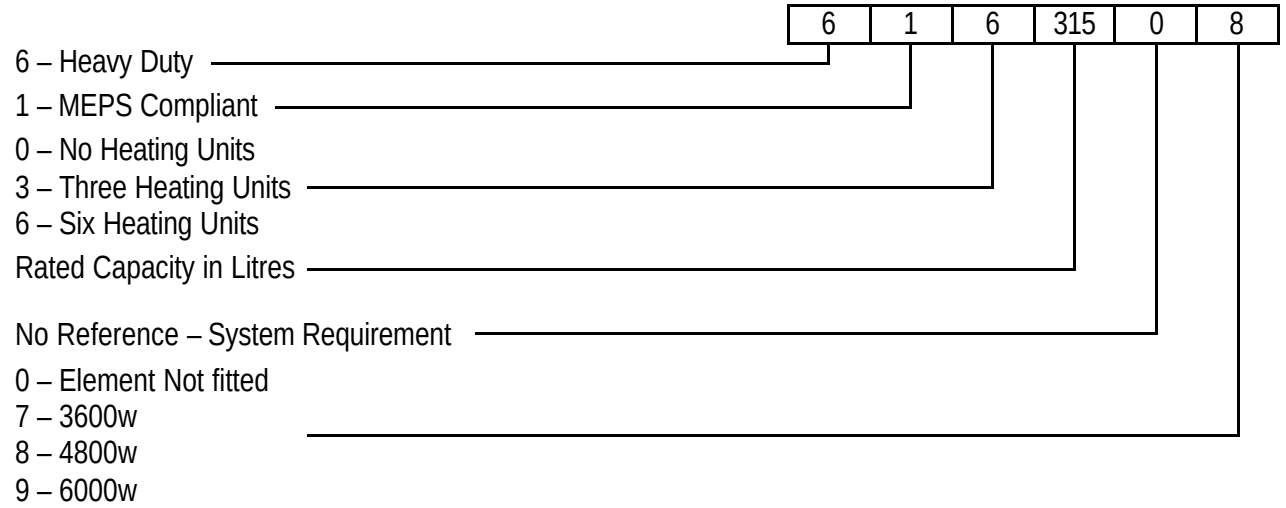
Should you require further technical advice on a Rheem Heavy Duty Electric Water Heater, contact your nearest Rheem Service Department where all genuine replacement parts are also available.

CONTENTS

	Page
Safety Warning	2
Model Identification	3
Specifications	3
Operation	3
Components And Their Function	4
Preventative Maintenance	4
Wiring Diagrams	5 - 6
Common Faults	7 - 8
Manifolding	8 - 9
Fault Finding	10 - 18
Component Tests	13 - 14
Electrical Insulation Tests	18
Component Replacement Procedures	19 - 21
Exploded View - Three Element	22
Exploded View - Six Element	23
Exploded View – Storage Tank	24
Replacement Parts List	25
Warranty Statement	26

HEATER MODEL IDENTIFICATION

All identification numbers are designed to convey detailed information about the water heater to which it is attached. The model number consists of 8 digits.


6 1 6 315 0 8
6 – Heavy Duty
1 – MEPS Compliant
0 – No Heating Units
3 – Three Heating Units
6 – Six Heating Units
Rated Capacity in Litres
No Reference – System Requirement
0 – Element Not fitted
7 – 3600w
8 – 4800w
9 – 6000w

Note: Model number, serial number and date of manufacture should be quoted in all correspondence.

SPECIFICATIONS

	Model		Rated Capacity (Litres)	T & PR Valve Rating (kPa)	Maximum Inlet Pressure (kPa)		T/stat Setting (ºC)	Water Connections		T/stat Type	Anode Length (mm)
	Series	Capacity			With ECV	Without ECV		Inlet Outlet	T&PR		
HEAVY DUTY	613	060	50	1000	680	800	75	RP1¼/32	RP¾/20	Tradesperson Adjustable	485
	613 616	340	315	1000	680	800	75	RP1¼/32	RP¾/20		1400
	610	340	340	1000	680	800	N/A	RP1¼/32	RP¾/20	N/A	1400

OPERATION

The 613 and 616 series heavy duty electric water heaters are designed for connection to a 3 phase AC supply incorporating a neutral.

On 3 element models the wiring is configured for one element and thermostat combination to be supplied between each active conductor (phase) and neutral. On six element models the wiring is configured for two element and thermostat combinations to be supplied between each active conductor (phase) and neutral.

Water temperature is maintained via the thermostat switching the active conductor to an electric immersion element. The thermostat and corresponding element are mounted at intervals up the side of the cylinder.

As the water temperature within the cylinder falls the thermostat contacts close suppling power to the element. Each element is switched on sequentially from the bottom up, as cold water enters the cylinder.

Once the water temperature reaches the set point of the thermostat, the contacts open cutting power to the corresponding element.

A double pole “manual reset” over temperature cut out is incorporated into each thermostat to provide additional protection in the event the controlling thermostat contacts fail. The ECO contacts open between 87ºC and 93ºC.

COMPONENTS AND THEIR FUNCTION

Temperature and Pressure Relief Valve
A valve designed to provide automatic relief by discharging water in case of excessive temperature, pressure or both.

Never fit a T&PR Valve with a pressure rating greater than that indicated on the product-rating label.

Pressure Limiting Valve (P.L.V.)
A valve that controls its outlet pressure to a predetermined limit.

Outlet Delivery Tube (Dip Tube)
A plastic tube installed in the hot water outlet of the water heater cylinder to conduct water from the highest point to the outlet connection. It also acts as a fitting liner.

Diffuser
A plastic device installed in the cold water inlet of the water heater cylinder to assist with stratification. It also acts as a fitting liner.

Fitting Liner
A plastic tube installed in the cold-water inlet of the water heater to provide protection against corrosion through the life of the water heater.

Anode (Sacrificial)
A metal alloy electrode installed in the water heater cylinder that by galvanic action protects the cylinder from corrosion.

Thermostat
A device, responsive to temperature, which controls the supply of electrical energy to the element to maintain the stored water at the required temperature.

Over Temperature Energy Cutout (E.C.O.)
A temperature-sensing device in combination with the thermostat that automatically cuts off the supply of electrical energy to prevent excessive water temperature occurring. This device will not reset automatically but may be manually reset once temperatures have fallen to a safe level. ***DETERMINE CAUSE OF OPERATION*.**

Heating Unit (Element)
A tubular device containing an electric resistance element that converts electrical energy to heat. Standard ratings are 3.6, 4.8 and 6.0kW

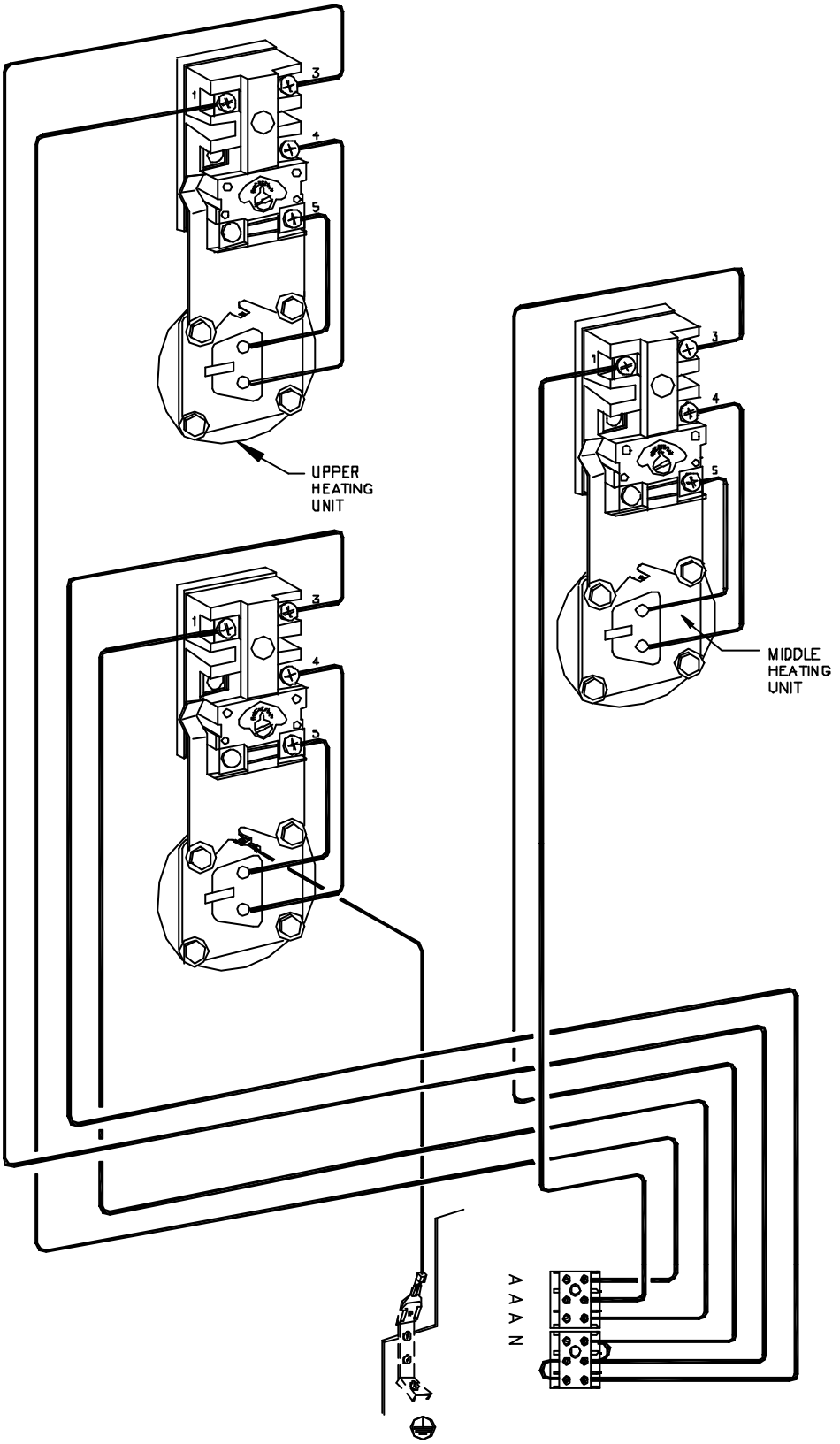
PREVENTATIVE MAINTENANCE

It is suggested for peak performance that the water heater be serviced annually.

1. Check for discharge from the T&PR valve. When the elements are operating a small discharge of water may be evident. Operate the valve-easing lever to ensure the valve opens and resets properly. Always open and close the valve gently. The T& PR valve should be replaced at 5 yearly intervals.
2. Check for leaks at all cylinder fittings.
3. Check for signs of excessive corrosion on the water heater jacket.
4. ***Isolate power*** to the water heater and check all electrical connections for signs of overheating due to poor connection.
5. Conduct an electrical insulation test on the water heater. (Refer to page 18)
6. Check for sludge build up and if necessary drain and flush tank.

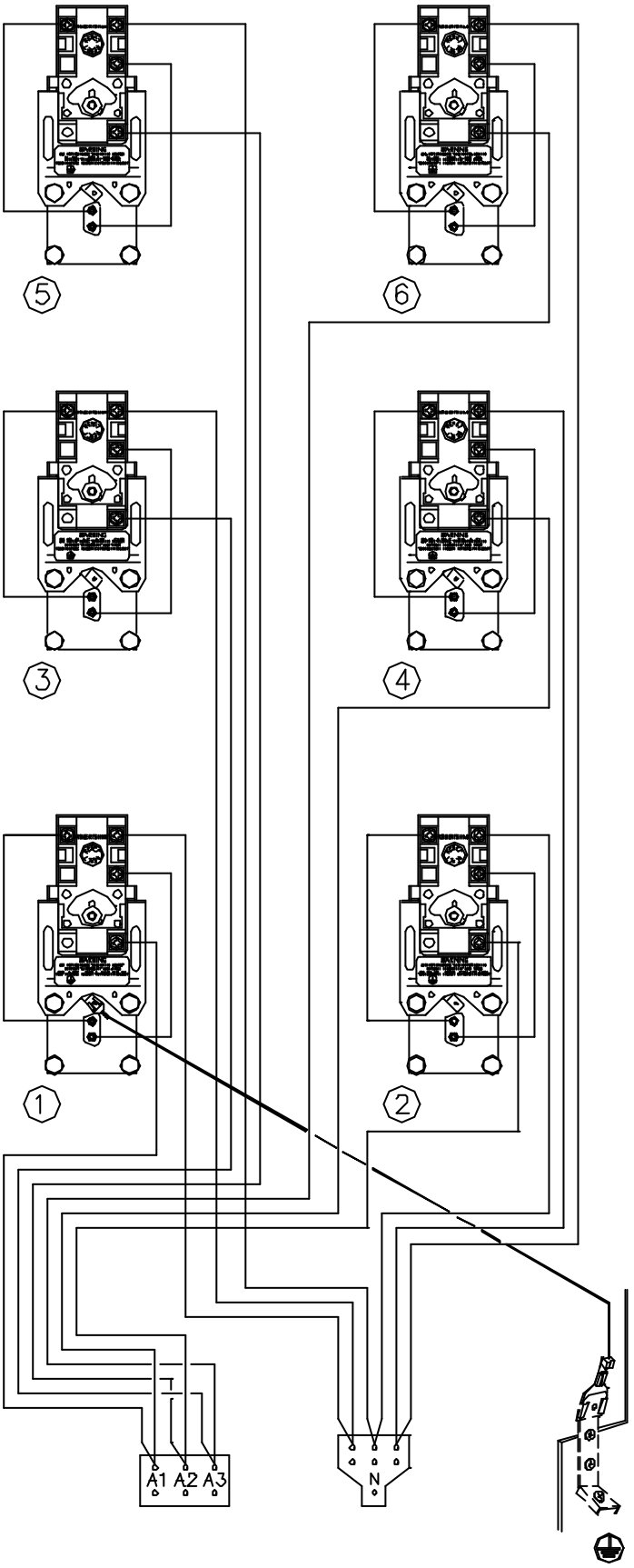
WIRING DIAGRAMS

THREE ELEMENT MODELS



WIRING DIAGRAMS

SIX ELEMENT MODELS



COMMON FAULTS

When a complaint is lodged about the performance of a hot water system there are a number of causes that should be checked and eliminated. In an attempt to pinpoint the most likely cause it is important to discuss with the customer their reasons for the complaint, the duration of the problem, any change in circumstances or usage and recent weather conditions. This information in conjunction with the following listed common complaints will assist you in locating the most likely cause. All procedures assume there is water flowing through the water heater.

Excessive hot water usage

The complaints of insufficient hot water and no hot water can on many occasions be attributed to hot water usage exceeding the capacity of the water heater to provide hot water.
When first attending a call of this nature it is essential to establish the probable hot water usage by querying the usage habits of the household and compare this with the potential delivery of the model water heater installed. It can then be established if the usage is within or outside the capacity of the model. The areas to look at for excessive usage are:

1. Automatic washing machines.
2. Showers exceeding 12 litres/minute for mixed water and 5 minutes in duration.
3. Two or more showers operating at the same time.
4. Change of occupancy or number of persons increased.
5. High water pressure area. (Excessive pressure relief valve discharge)
6. Plumbing leaks
7. Thermostat temperature setting
8. Crossed connection

Discoloured water

This may be the result of discoloured water entering from the cold water mains. Check if the cold water is also discoloured.

Water hammer

A water heater will not cause water hammer, however valves associated with the water heater may be the source of the problem i.e. cold-water stopcock, non-return valve or relief valve.

Most water hammer problems are associated with plumbing, hot and cold or appliances i.e. solenoid valves, ballcocks, loose pipes, sharp angles in pipe work, faulty or worn valve parts, loose tap washers or neighbouring equipment.

High water pressure areas will have more complaints of this nature and the use of a pressure-limiting valve (PLV) to reduce the household cold-water pressure will usually solve most problems.

Hot water plumbing leaks

If hot water has not been used for a period of time, feeling the temperature of the hot water line may give an indication of water flow if the pipe is warm. The method of checking for plumbing leaks is:

1. Turn off the stopcock on the cold water supply to the water heater.
2. Open a hot tap to ensure the flow of water stops. This will confirm the stopcock is operating correctly.
3. Turn off the hot tap.
4. Turn on the stopcock to make up the water pressure in the cylinder, and then turn the stopcock off again.
5. Wait approximately 5 minutes then do either of the following:
   a. With your ear close to the stopcock turn it on slightly and listen for any water passing. If there are no leaks, water should not pass.
   b. Open a hot tap while listening for any pressure release. If there is a pressure release there will be no leaks in the plumbing system.

COMMON FAULTS

Mixing or crossed connections

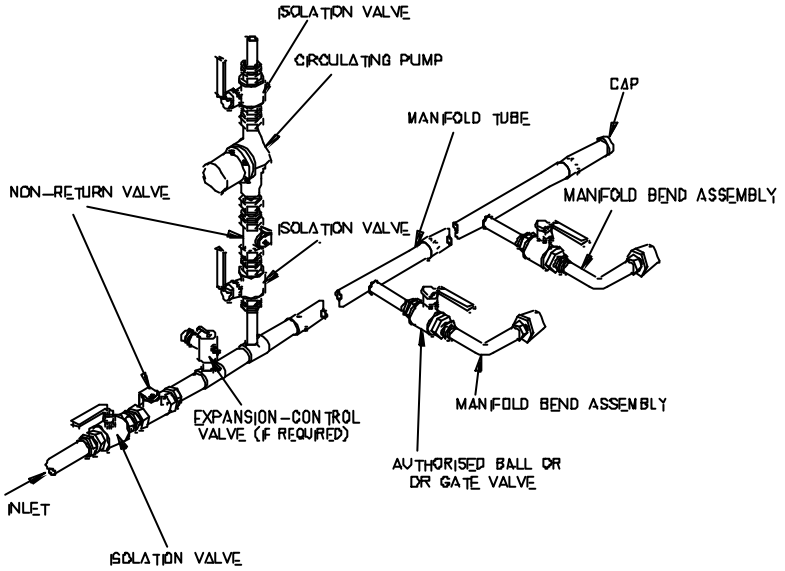
If an automatic dishwasher, washing machine, flick mixer tap, tempering valve or thermostatic mixing valve is installed there is always the possibility that the cold water could mix with the hot water through a faulty or incorrectly installed valve. This is referred to as a cross connection. The complaints of insufficient hot water, water too cold or excessive discharge from the pressure relief valve may be attributed to a cross connection. The method of checking for a cross connection is:

1. Turn off the stopcock on the cold water supply to the water heater.
2. Open a hot tap. If water flow is persistent and cold a cross connection exists.

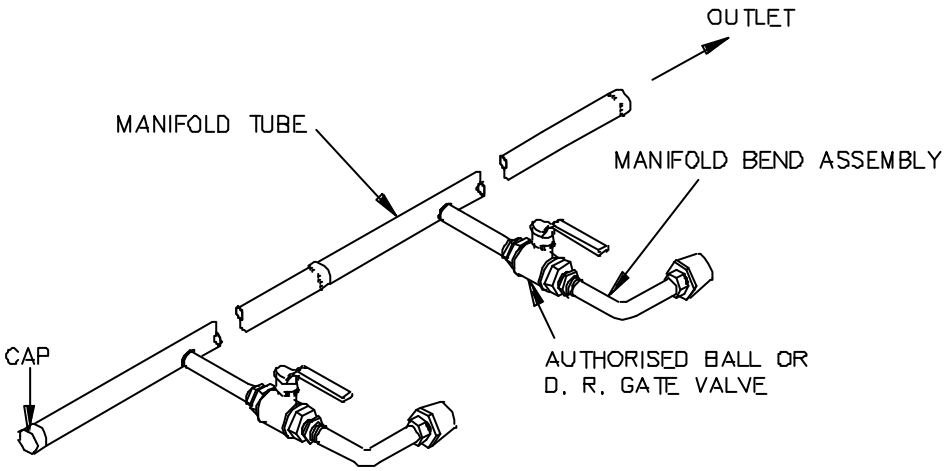
Manifolding

Very often complaints surrounding insufficient hot water in commercial installations can be attributed to poor manifolding. In order for the water heaters to operate simultaneously the water flow through all the tanks must be the same to ensure the temperature drop is equal across the tanks. In a worst-case scenario it is possible for 2 or 3 of the water heaters in a bank to almost never operate. This results in an overall loss of heat input to the water moving through the building and can be confused as the installation being undersized or a malfunction of the water heaters. The principle of Equa-Flow is to ensure the demand on each water heater in the bank is the same as any other. To achieve this, the following are necessary:

1. The **cold** water manifold must be designed to balance the flow to each unit i.e. each branch line must be the same diameter and length and be fitted with identical ball or gate valves.



2. The **hot** water manifold must be designed to balance the flow from each unit i.e. each branch line must be the same diameter and length and be fitted with identical ball or gate valves.

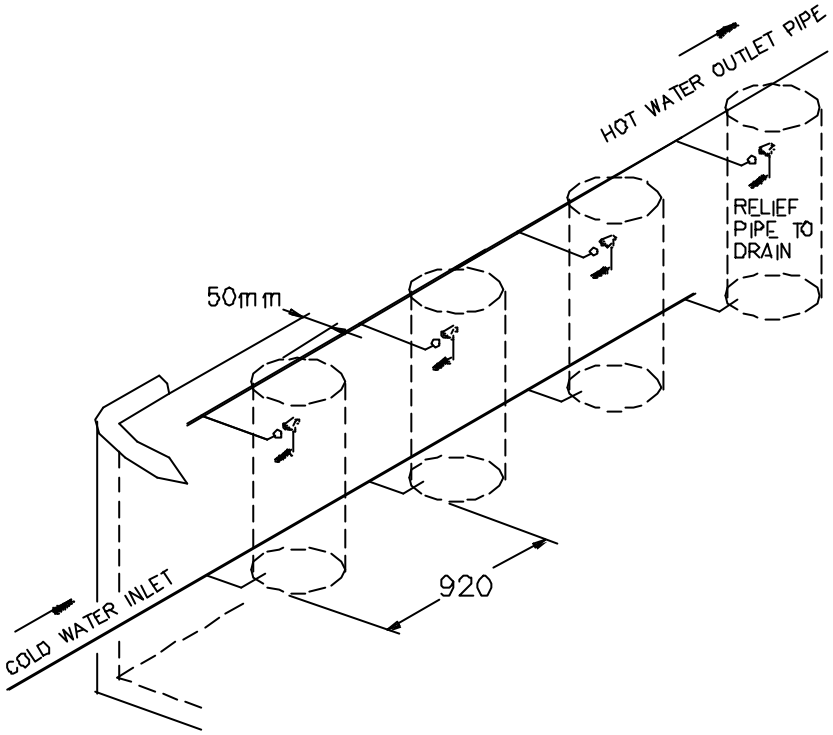


COMMON FAULTS

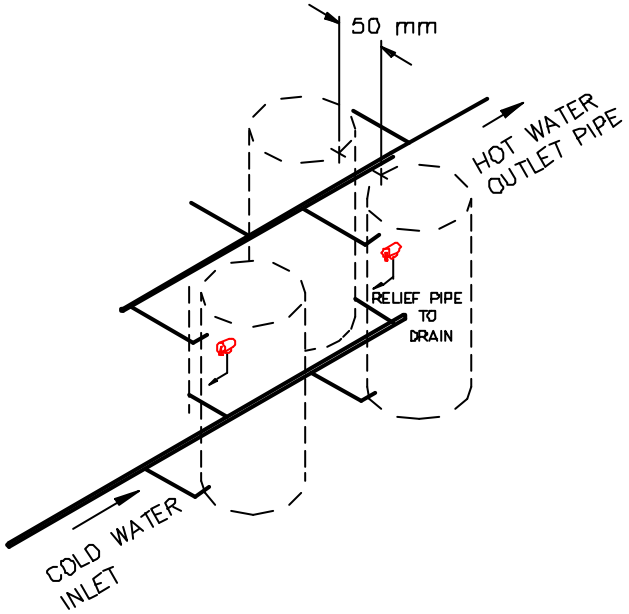
Manifolding

3. All the water heaters must be of the same size and capacity.
4. The first heater supplied from the cold (inlet) manifold must be the last heater supplying the hot (outlet) manifold (see examples below).

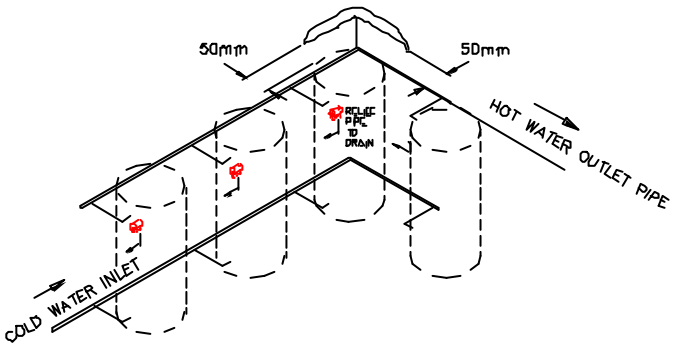
In Line Manifold



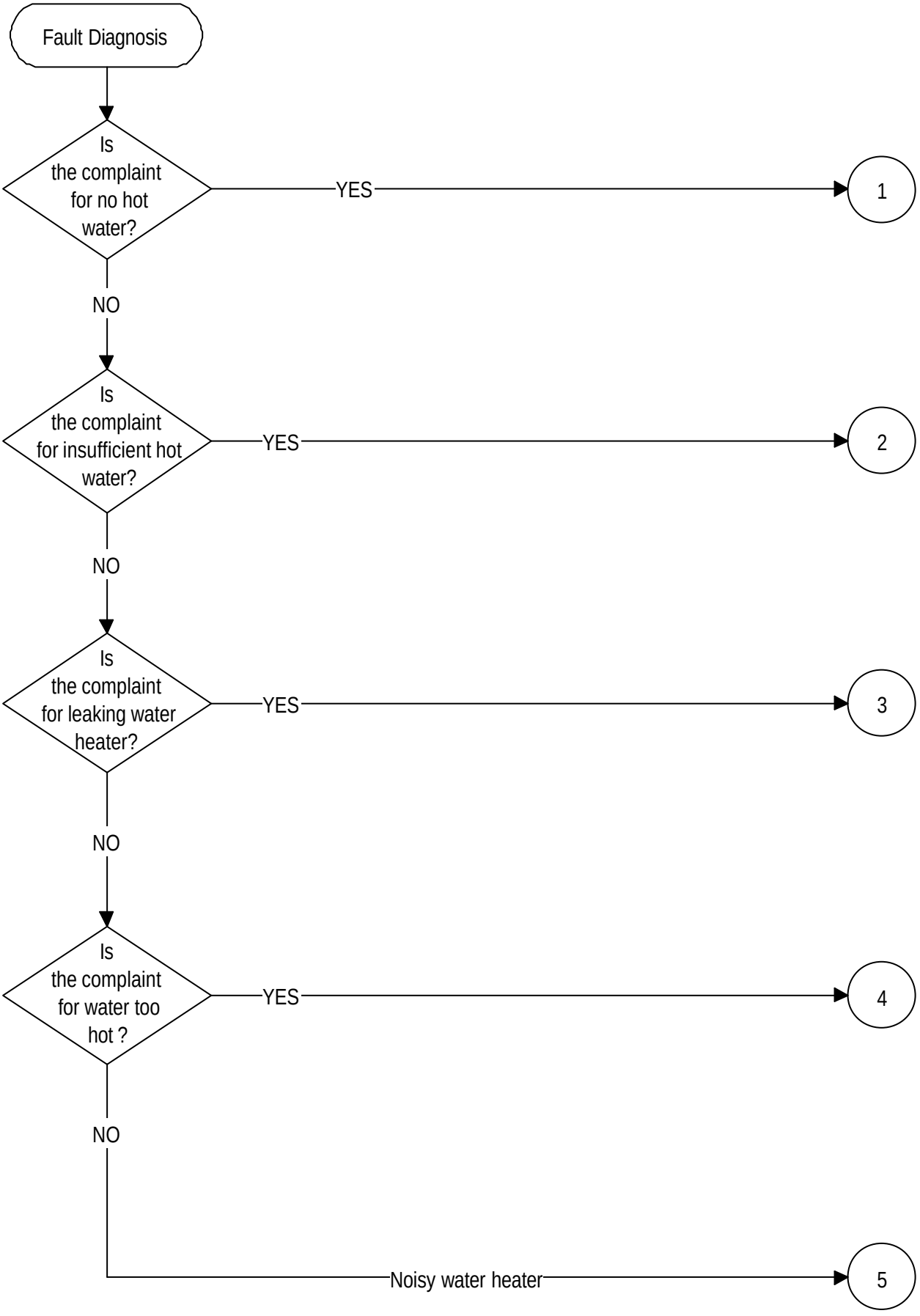
Back to Back Manifold



Angle Manifold

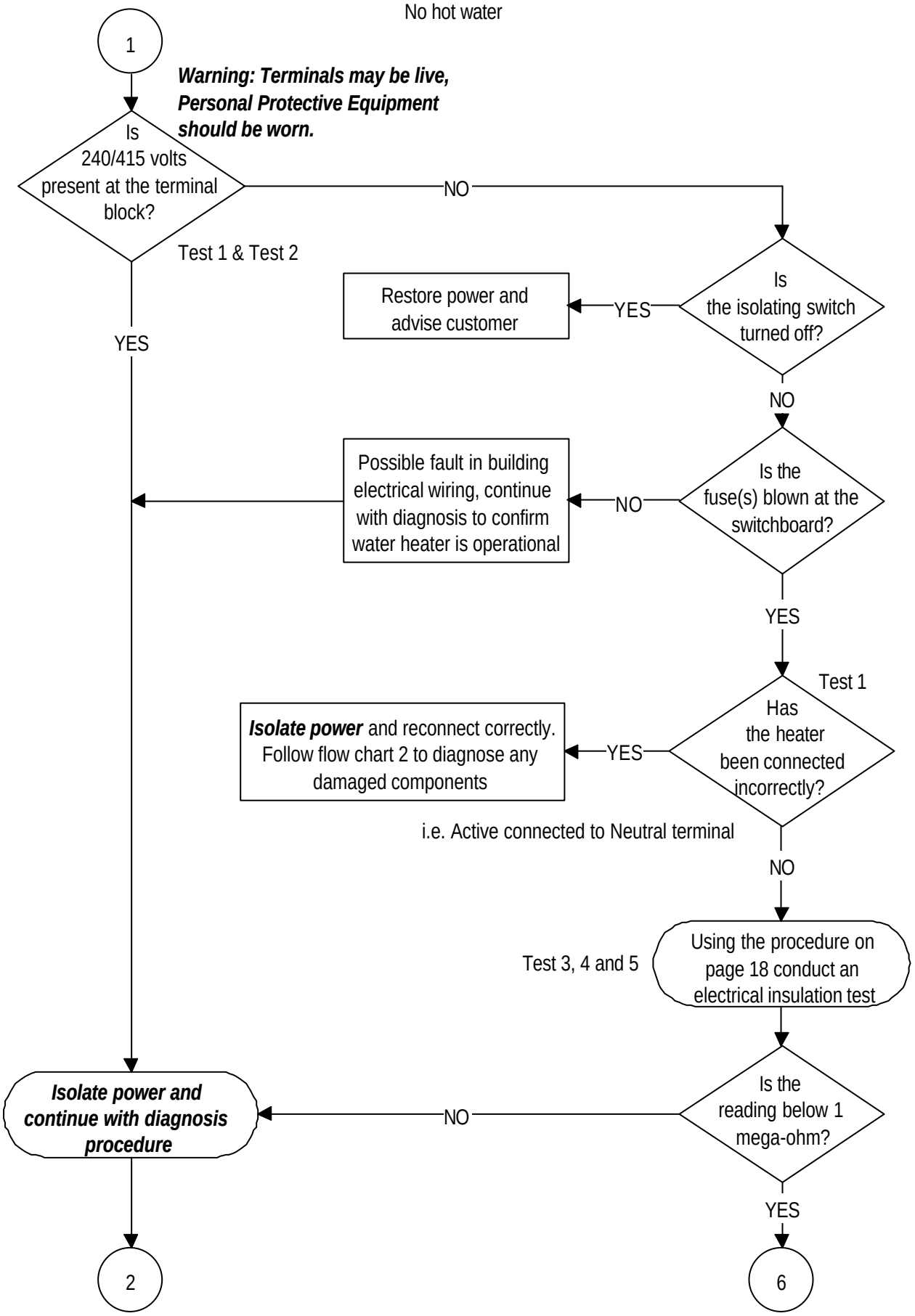


FAULT FINDING



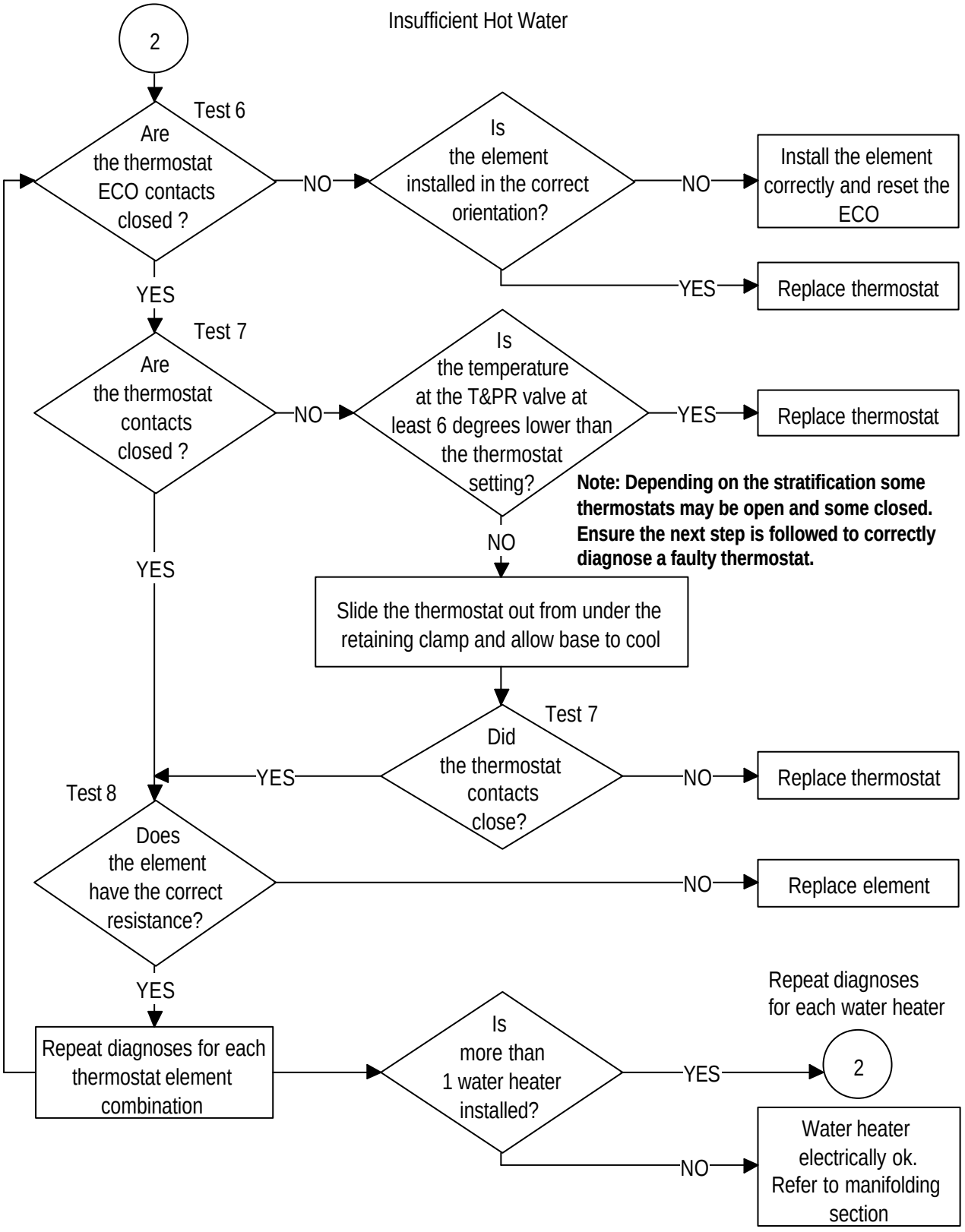
FAULT FINDING

No hot water


1
Warning: Terminals may be live, Personal Protective Equipment should be worn.
Is 240/415 volts present at the terminal block?
NO
Test 1 & Test 2
YES
Restore power and advise customer
YES
Is the isolating switch turned off?
NO
Possible fault in building electrical wiring, continue with diagnosis to confirm water heater is operational
NO
Is the fuse(s) blown at the switchboard?
YES
Test 1
Isolate power and reconnect correctly. Follow flow chart 2 to diagnose any damaged components
YES
Has the heater been connected incorrectly?
i.e. Active connected to Neutral terminal
NO
Test 3, 4 and 5
Using the procedure on page 18 conduct an electrical insulation test
Isolate power and continue with diagnosis procedure
NO
Is the reading below 1 mega-ohm?
YES
2
6

FAULT FINDING

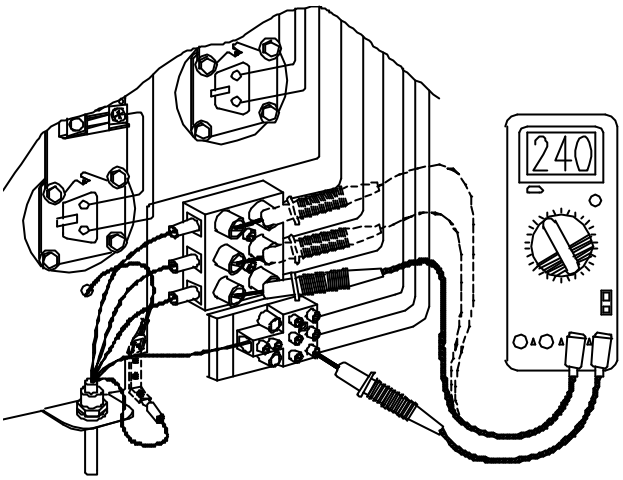
With multi-element water heaters very often more than one fault may have occurred before the user feels the effect. When servicing a multi-element water heater each thermostat - element combination should be checked to ensure correct operation. In manifolded installations a complaint for insufficient hot water may be due to faults in more than 1 heater or may be a result of poor manifolding.


Insufficient Hot Water
2
Test 6
Are the thermostat ECO contacts closed ?
NO
Is the element installed in the correct orientation?
NO
Install the element correctly and reset the ECO
YES
Replace thermostat
YES
Test 7
Are the thermostat contacts closed ?
NO
Is the temperature at the T&PR valve at least 6 degrees lower than the thermostat setting?
YES
Replace thermostat
Note: Depending on the stratification some thermostats may be open and some closed. Ensure the next step is followed to correctly diagnose a faulty thermostat.
NO
YES
Slide the thermostat out from under the retaining clamp and allow base to cool
Test 7
Did the thermostat contacts close?
YES
NO
Replace thermostat
Test 8
Does the element have the correct resistance?
NO
Replace element
YES
Repeat diagnoses for each thermostat element combination
Is more than 1 water heater installed?
YES
Repeat diagnoses for each water heater
2
NO
Water heater electrically ok. Refer to manifolding section

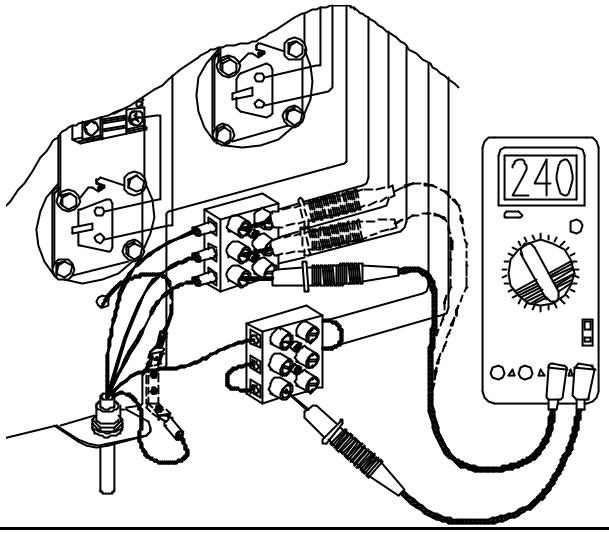
COMPONENT TESTING

Warning – "Live" equipment
Personal Protective Equipment should be worn when conducting these tests.

TEST 1 – 3 Element Models



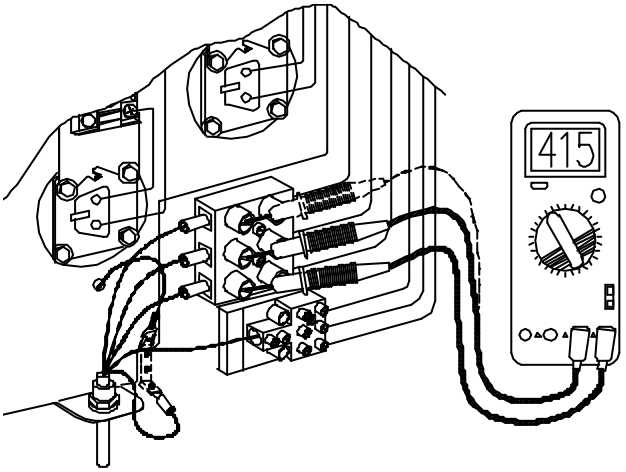
TEST 1 – 6 Element Models



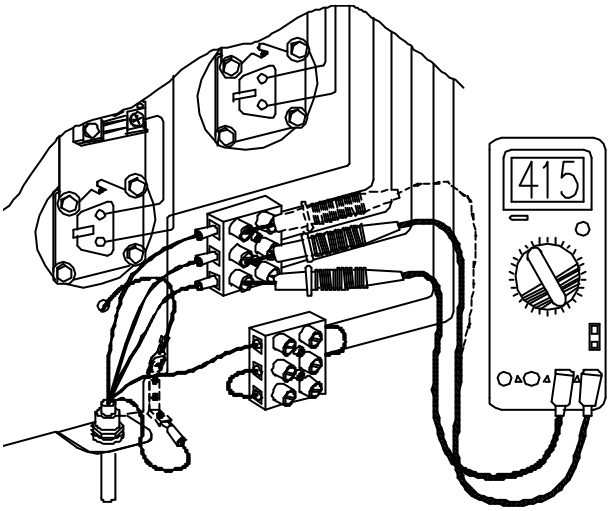
Using a multimeter on the AC voltage scale, measure between each active and neutral on the terminal block. Normal voltage is 240 volts

Warning – "Live" equipment
Personal Protective Equipment should be worn when conducting these tests.

TEST 2 – 3 Element Models



TEST 2 – 6 Element Models

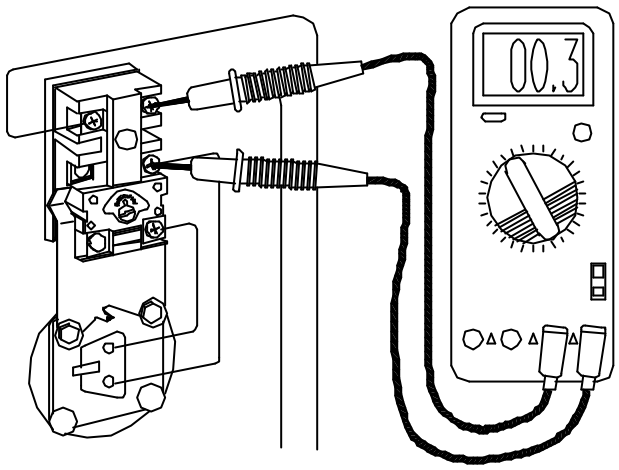


Using a multimeter on the AC voltage scale, measure between each active on the terminal block. Normal voltage is 415 volts when connected to a 3-phase supply.

COMPONENT TESTING

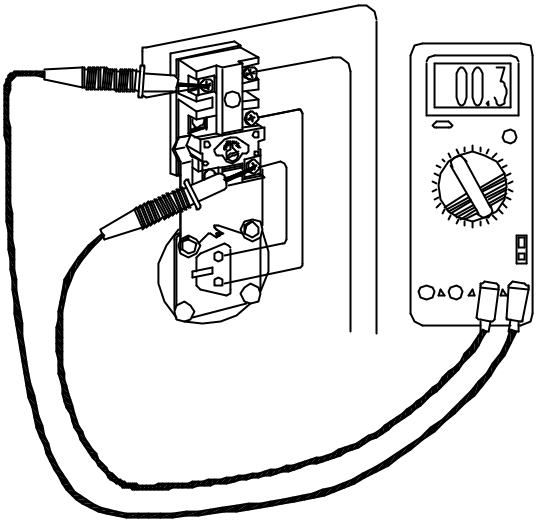
Warning: Ensure power is isolated before conducting these tests

TEST 6



Using a multimeter on the x1 resistance scale, measure between terminals 3L and 4L on the thermostat. The reading should be less than 1 ohm

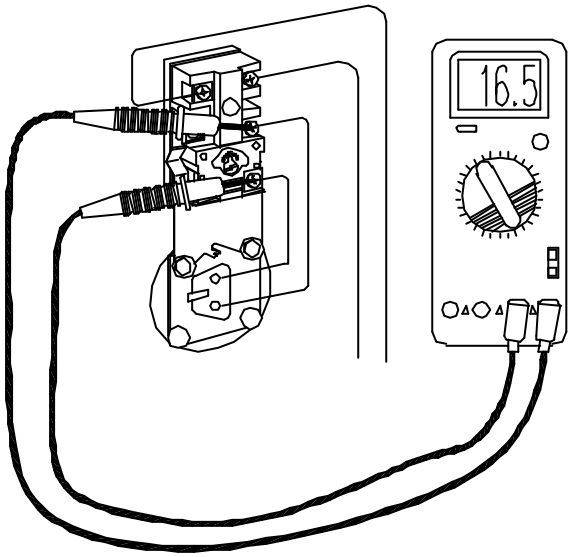
TEST 7



Using a multimeter on the x1 resistance scale, measure between terminals 1L and 2T on the thermostat. The reading should be less than 1 ohm.

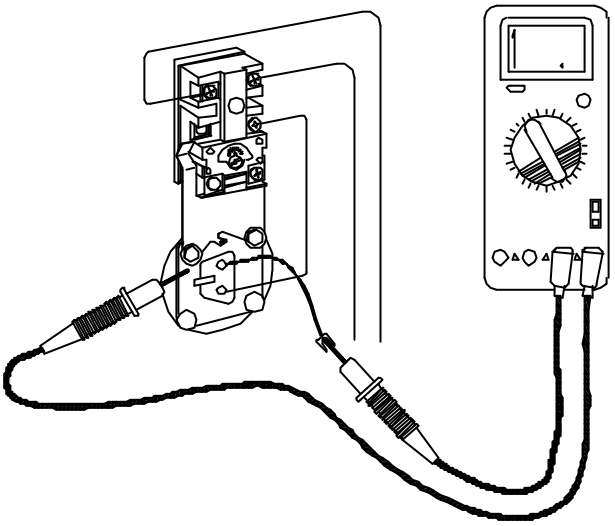
Warning: Ensure power is isolated before conducting these tests

TEST 8



Using a multimeter on the x1 resistance scale, measure between terminals 2T and 4L of the thermostat. Normal resistance for the heating unit is:
3.6kW: 15 - 17 ohms
4.8kW: 11 - 13 ohms
6.0kW: 9 – 11 ohms

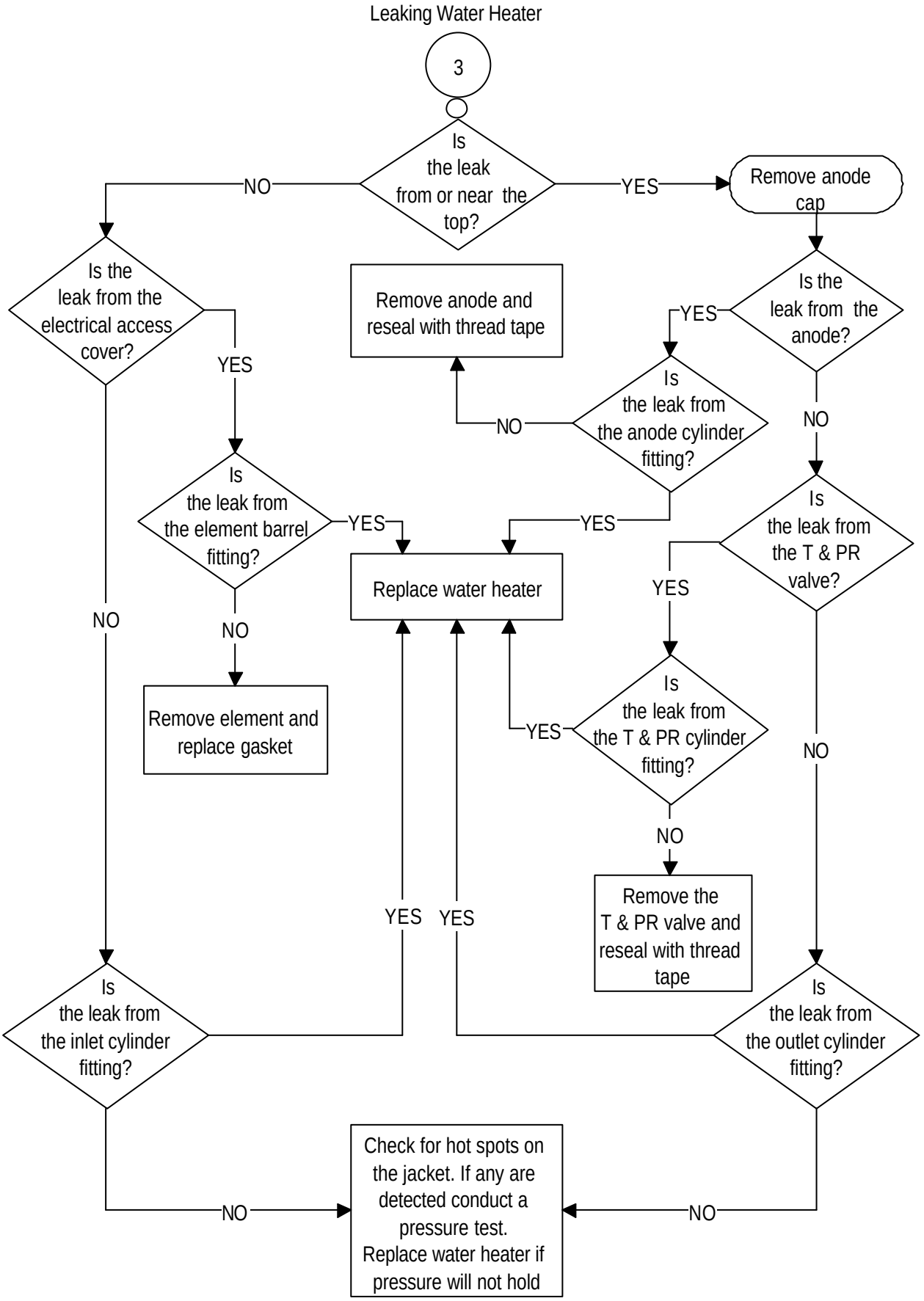
TEST 9



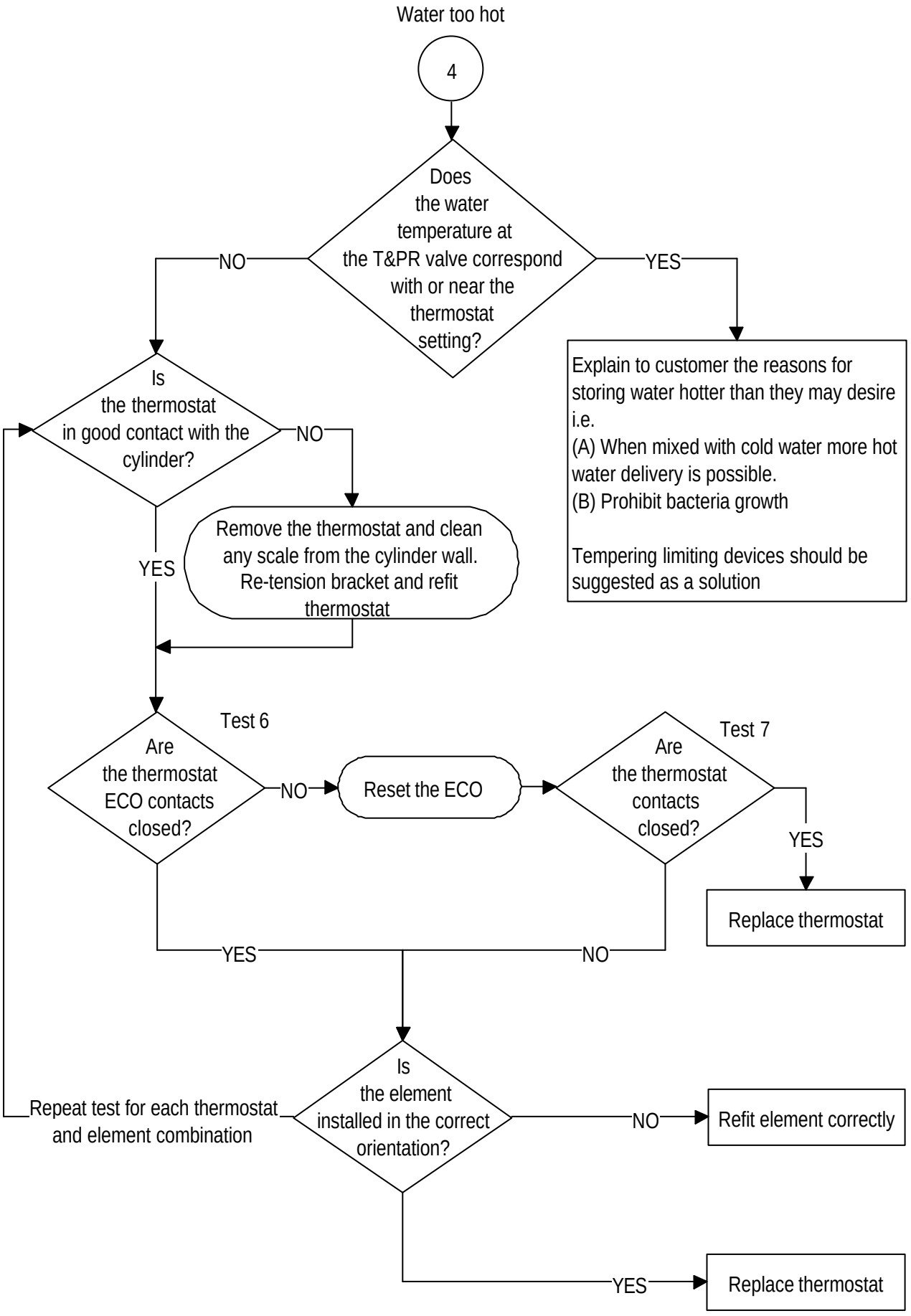
Using a megger on the 500V DC setting, measure between each element wire and earth.

The resistance should be greater than 1 mega ohm

FAULT FINDING

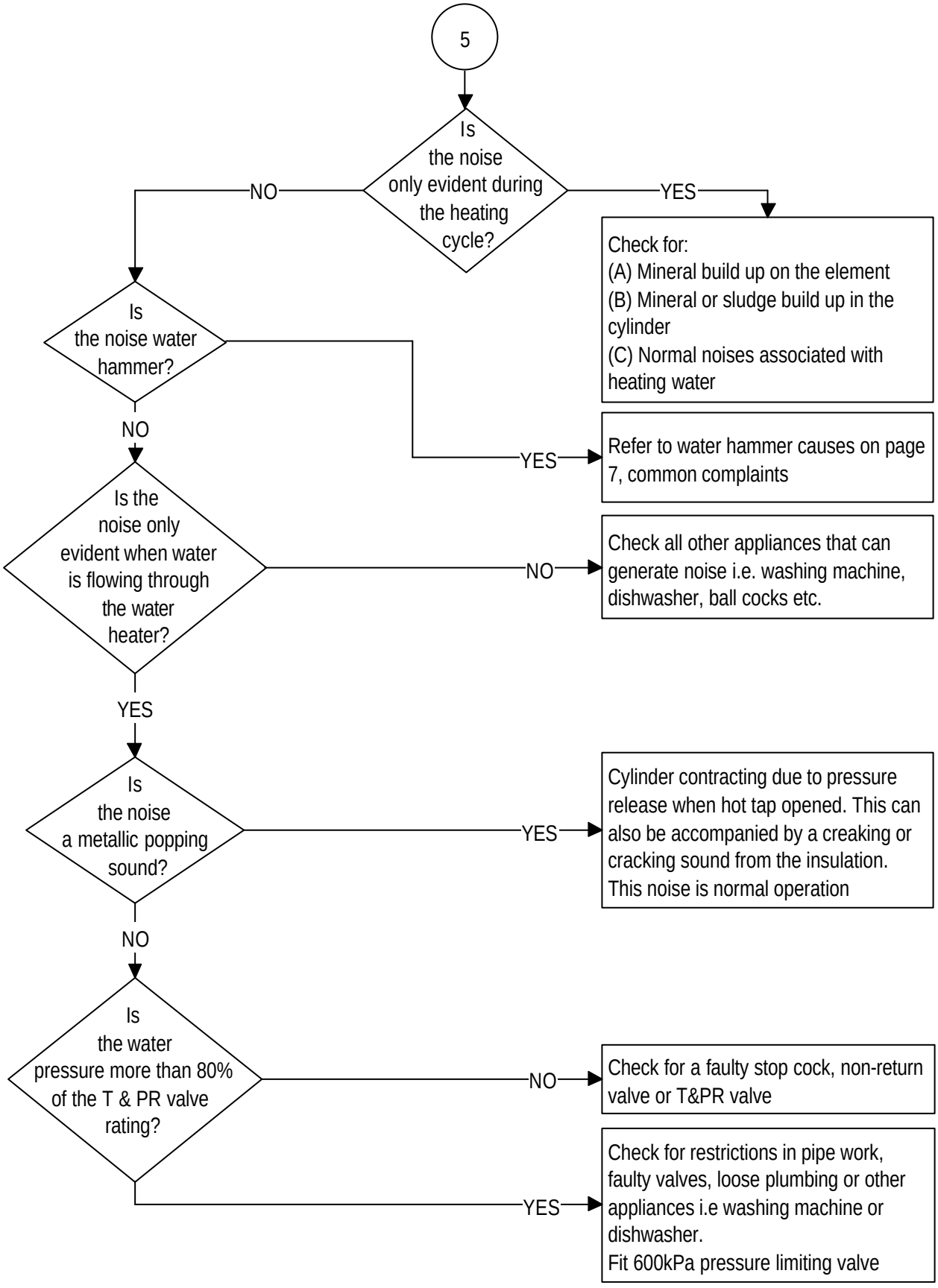

Leaking Water Heater
3
Is the leak from or near the top?
NO
YES
Remove anode cap
Is the leak from the electrical access cover?
Remove anode and reseal with thread tape
Is the leak from the anode?
YES
YES
NO
Is the leak from the anode cylinder fitting?
NO
Is the leak from the element barrel fitting?
YES
YES
Is the leak from the T & PR valve?
Replace water heater
NO
YES
NO
Remove element and replace gasket
Is the leak from the T & PR cylinder fitting?
YES
NO
Remove the T & PR valve and reseal with thread tape
YES
YES
NO
Is the leak from the inlet cylinder fitting?
Is the leak from the outlet cylinder fitting?
Check for hot spots on the jacket. If any are detected conduct a pressure test. Replace water heater if pressure will not hold
NO
NO

FAULT FINDING

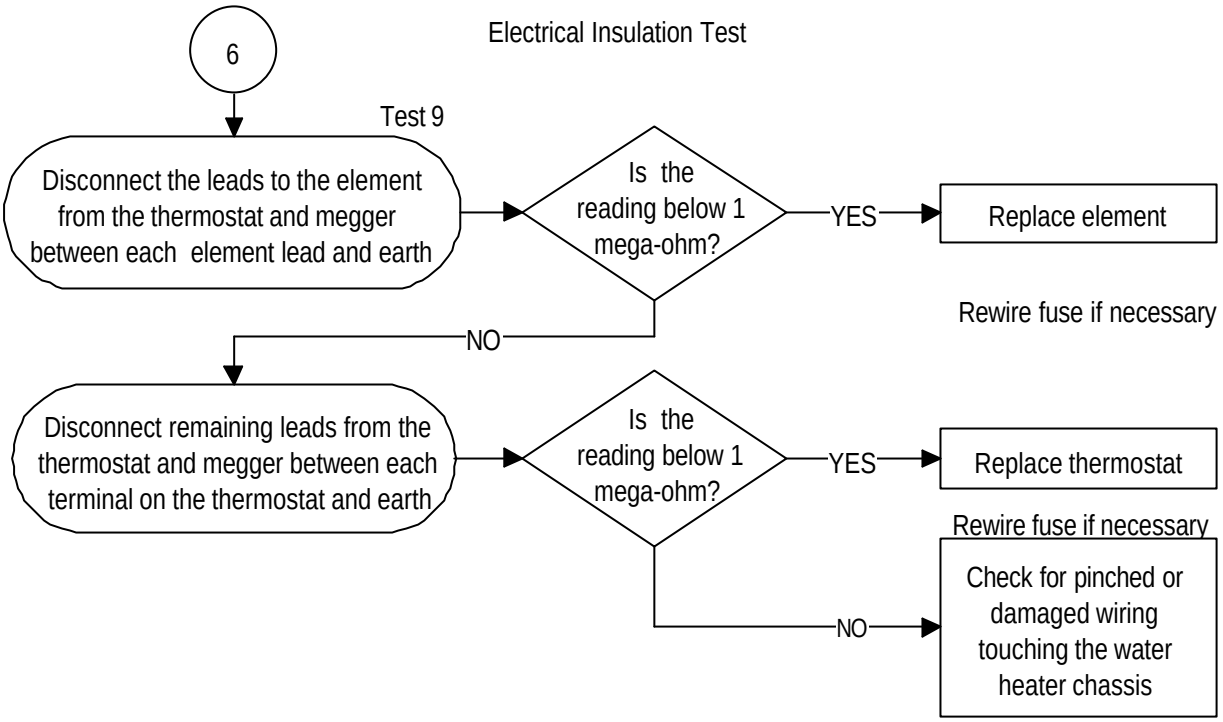

Water too hot
4
Does the water temperature at the T&PR valve correspond with or near the thermostat setting?
NO
YES
Explain to customer the reasons for storing water hotter than they may desire i.e.
(A) When mixed with cold water more hot water delivery is possible.
(B) Prohibit bacteria growth
Tempering limiting devices should be suggested as a solution
Is the thermostat in good contact with the cylinder?
NO
YES
Remove the thermostat and clean any scale from the cylinder wall. Re-tension bracket and refit thermostat
Test 6
Are the thermostat ECO contacts closed?
NO
Reset the ECO
Test 7
Are the thermostat contacts closed?
YES
Replace thermostat
YES
NO
Is the element installed in the correct orientation?
Repeat test for each thermostat and element combination
NO
Refit element correctly
YES
Replace thermostat

FAULT FINDING

Noisy Water Heater


5
Is the noise only evident during the heating cycle?
NO
YES
Check for:
(A) Mineral build up on the element
(B) Mineral or sludge build up in the cylinder
(C) Normal noises associated with heating water
Is the noise water hammer?
YES
Refer to water hammer causes on page 7, common complaints
NO
Is the noise only evident when water is flowing through the water heater?
NO
Check all other appliances that can generate noise i.e. washing machine, dishwasher, ball cocks etc.
YES
Is the noise a metallic popping sound?
YES
Cylinder contracting due to pressure release when hot tap opened. This can also be accompanied by a creaking or cracking sound from the insulation. This noise is normal operation
NO
Is the water pressure more than 80% of the T & PR valve rating?
NO
Check for a faulty stop cock, non-return valve or T&PR valve
YES
Check for restrictions in pipe work, faulty valves, loose plumbing or other appliances i.e washing machine or dishwasher.
Fit 600kPa pressure limiting valve

FAULT FINDING


6
Electrical Insulation Test
Test 9
Disconnect the leads to the element from the thermostat and megger between each element lead and earth
Is the reading below 1 mega-ohm?
YES
Replace element
Rewire fuse if necessary
NO
Disconnect remaining leads from the thermostat and megger between each terminal on the thermostat and earth
Is the reading below 1 mega-ohm?
YES
Replace thermostat
Rewire fuse if necessary
NO
Check for pinched or damaged wiring touching the water heater chassis

ELECTRICAL INSULATION TESTING

There are three basic test procedures that should be carried out when the operation and function of a water heater's electrical system is in doubt.

Personal Protective Equipment should be worn when conducting step 1 of this procedure to reduce the risk of electric shock. Refer to Rheem safety procedure on electrical testing.

Test No.3

Insulation resistance of the water heater Neutral Circuit. (Reading not to be below 1 mega-ohm).

1. ***Isolate power to the water heater at the isolation switch. Confirm with multi-meter across each Active and Neutral at the terminal block that voltage is not present.***
2. Once satisfied, disconnect the active and neutral wires from the water heater terminal block.
3. Connect megger leads to the neutral of the water heater wiring and earth.
4. Operate megger. A reading above 1 mega-ohm should be obtained.
5. If a reading below 1 mega-ohm is indicated, all component parts will need to be individually tested to locate the fault. Refer to flow diagram 6.

Test No.4

Insulation resistance of the water heater Active Circuit. (Reading not to be below 1 mega-ohm).

6. Connect megger leads to the active of the water heater wiring and earth.
7. Operate megger. A reading above 1 mega-ohm should be obtained.
8. If a reading below 1 mega-ohm is indicated, all component parts will need to be individually tested to locate the fault. Refer to flow diagram 6.

Test No.5

"Continuity" of water heater electrical circuit.

9. Set megger to resistance scale or multimeter to x1 resistance scale.
10. The reading should correspond with resistances indicated in test 8, page 14. If the reading varies by more than 2 ohms, all electrical component parts will need to be individually tested to locate the fault.
11. Reconnect active cables to "A" terminal and neutral cable to "N" terminal at heater terminal block.
12. Replace fuse. ***Note: If continuing with flow chart 2 of diagnostic procedure do not restore power.***

COMPONENT REPLACEMENT

DRAINING THE WATER HEATER (PROCEDURE 1)

Elevated temperatures may be present during the draining process. Personal Protective Equipment should be worn to prevent the risk of scalding.

Personal Protective Equipment should be worn when conducting step 3 of this procedure to reduce the risk of electric shock. Refer to Rheem Safety Procedure on electrical testing.

1. ***Isolate the power and water supplies to the water heater.***
2. ***Relieve pressure from the water heater through the T & PR valve or a hot tap.***
3. ***Remove the access cover and confirm with a multi-meter between each Active and Neutral at the terminal block that voltage is not present.***
4. Disconnect the cold water supply pipe
5. Fit a drain hose to the cold-water connection and run the other end to a drain or safe location.
6. Open the temperature and pressure relief valve to allow air into the system.

TEMPERATURE AND PRESSURE RELIEF VALVE (PROCEDURE 2)

Never fit a T&PR valve with a rating higher than that indicated on the water heater rating plate. Do not use reconditioned T&PR valves.

1. ***Isolate the power and water supplies to the water heater.***
2. ***Relieve pressure from the water heater through the T & PR valve or a hot tap.***
3. Remove the drain line from the T&PR valve.
4. Unscrew the T&PR valve and remove.

A quantity of hot water will discharge from the tank during this process. Personal Protective Equipment should be worn to prevent scalds or burns.

5. Confirm the replacement T&PR valve is the correct rating and refit using thread tape.
6. Refit the drain line.
7. Close the hot tap and restore water supply.
8. Check T&PR valve thread for leaks.
9. Operate the T&PR valve lever to reset relief drain.
10. Purge air from the system through hot taps.
11. Restore the power supply to the water heater.

COMPONENT REPLACEMENT

THERMOSTAT (PROCEDURE 3)

Personal Protective Equipment should be worn when conducting step 2 of this procedure to reduce the risk of electric shock. Refer to Rheem Safety Procedure on electrical testing.

1. ***Isolate the power to the water heater*** and remove access cover.
2. ***Confirm with multi-meter between each Active and Neutral at the terminal block that voltage is not present.***
3. Remove the thermostat protective cover and disconnect the wiring from the thermostat.
4. Slide the thermostat out from under the retaining clamp. Note the current temperature selected.
5. Remove any scale from the cylinder surface
6. Slide the replacement thermostat under the clamp and set temperature to that noted in step 4. Reconnect the wiring as per the circuit diagram (3 element models refer to page 5. 6 element models refer to page 6.)
7. Check water heater internal wiring insulation for cracking.
8. Conduct an electrical insulation test. Refer to page 18.
9. Refit the thermostat protective cover and the access cover.
10. Restore the power supply.

DIP TUBE (PROCEDURE 4)

1. ***Isolate the power and water supplies to the water heater.***
2. ***Relieve pressure from the water heater through the T & PR valve or a hot tap.***
3. Disconnect the hot water line from the outlet of the water heater.

A quantity of hot water will discharge from the outlet during this process. Personal Protective Equipment should be worn to prevent scalds or burns.

4. Using a flat blade screwdriver gently split the outer rim at the top and bottom of the dip tube face and prise the dip tube out of the cylinder fitting.
5. Fit the replacement dip tube into the cylinder fitting ensuring the flat lines up with the fitting (dip tube facing up) and gently drive the dip tube into the fitting a short distance.
6. Reconnect the plumbing, this will push the dip tube into the correct location.
7. Restore the water supply and purge air from the system through hot taps.
8. Restore the power supply.

COMPONENT REPLACEMENT

ANODE (PROCEDURE 5)

Elevated temperatures may be present during anode removal process. Personal Protective Equipment should be worn to prevent the risk of scalding.

1. ***Isolate the power and water supplies to the water heater.***
2. ***Relieve pressure from the water heater through the T & PR valve or a hot tap.***
3. Remove the anode cap.
4. Using a 27mm tube or socket spanner remove the anode.
5. Apply thread seal tape to replacement anode, refit and tighten. **Note:** It may be necessary to cut the anode to length prior to fitting. Refer to page 3 for the correct anode length.
6. Restore water supply and check for leaks.
7. Refit the anode cap.
8. Purge air from the system through hot taps and restore the power supply to the water heater.

ELEMENT (PROCEDURE 6)

Elevated temperatures may be present during element removal process. Personal Protective Equipment should be worn to prevent the risk of scalding.

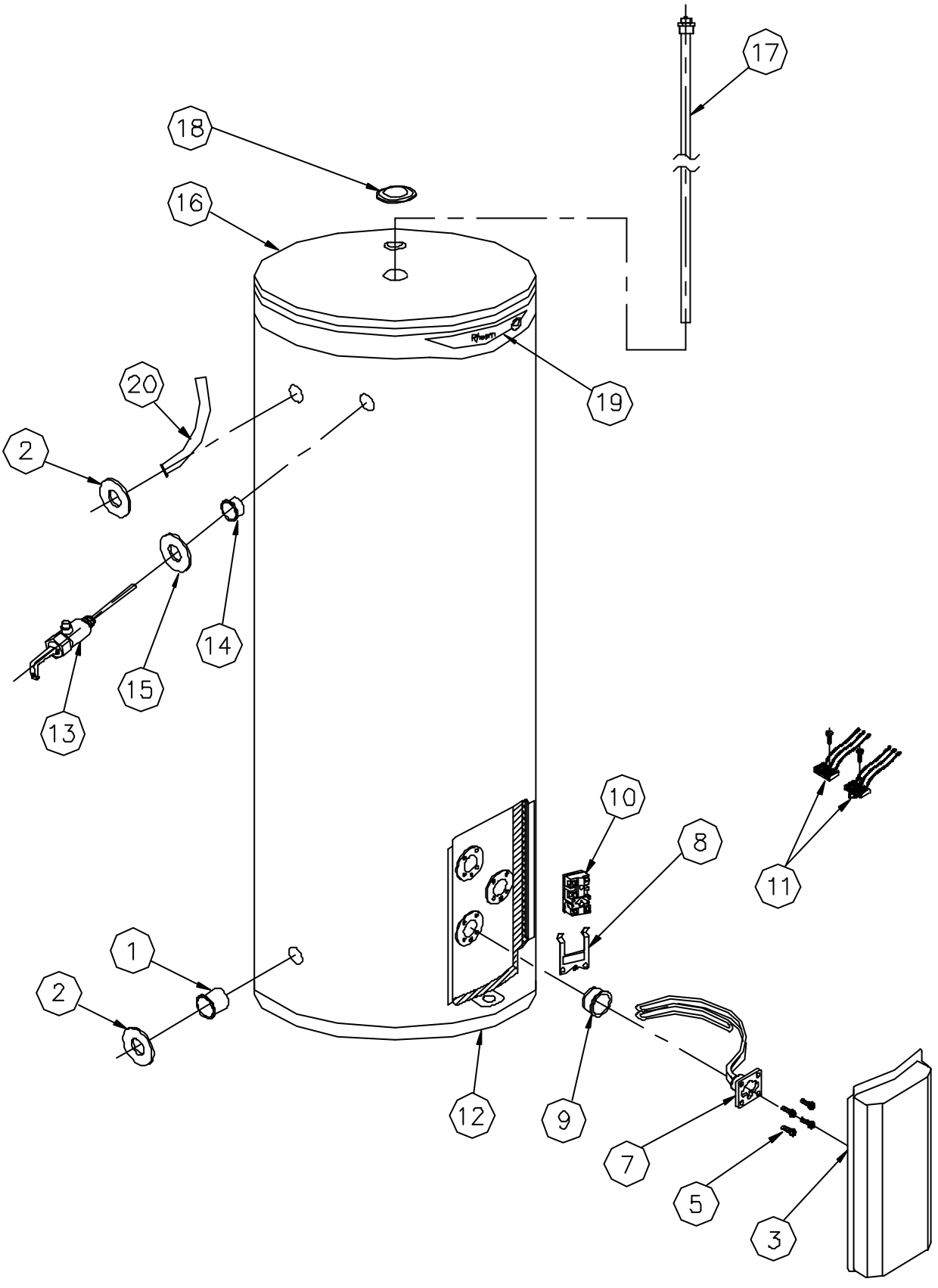
Personal Protective Equipment should be worn when conducting step 2 of this procedure to reduce the risk of electric shock. Refer to Rheem Safety Procedure on electrical testing.

Where a fault or leak is traced to the element, the water heater should be drained to prevent damage to flooring or floor coverings by accidental flooding.

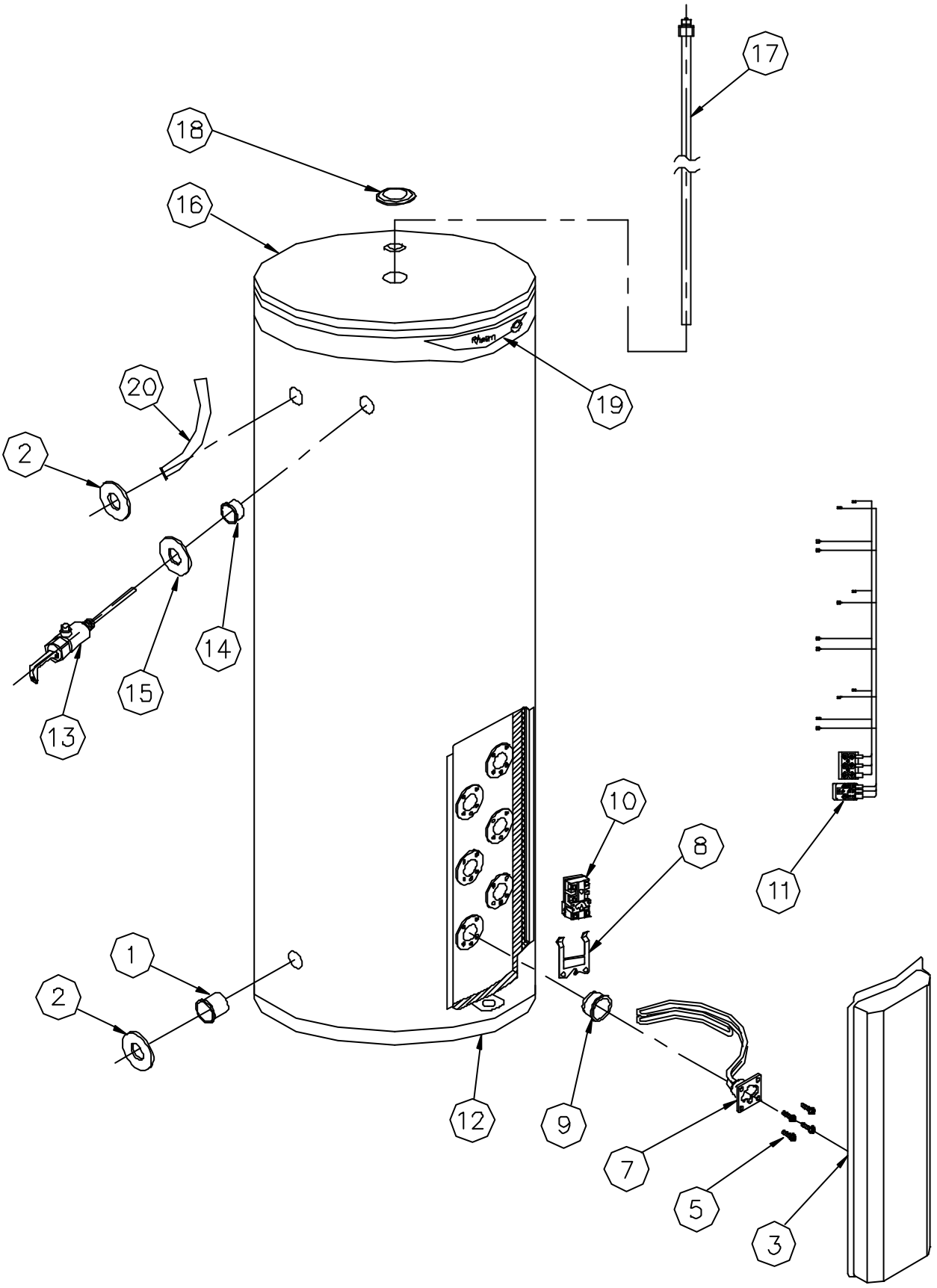
1. ***Isolate power and water supplies*** and remove the access cover***.***
2. ***Confirm with a multi-meter between each Active and Neutral at the terminal block that voltage is not present.***
3. ***Relieve pressure from water heater through the T & PR valve or a hot tap.***
4. Drain the water heater. Refer to procedure 1 on page 19.
5. When the water heater is drained, undo the four element screws, removing thermostat clamp first.
6. Withdraw heating unit. Care must be taken to ensure the loop of the heating unit does not catch in the cylinder opening and open out inside the cylinder.

   NOTE: Do not "cut off" the heating unit and leave a portion inside the cylinder
7. Clean around cylinder fitting, fit gasket to new element and slide heating unit into cylinder taking care that it is in the correct orientation. See heating unit plate for directions.
8. Replace screws and thermostat clamp and tighten.
9. Restore cold water supply and fill the storage tank by gently lifting the easing lever on the T & PR valve until water runs from the drain.
10. Check for water leaks around the element flange.
11. Conduct an electrical insulation test. (Refer to page 18)
12. Replace access cover securely and restore electrical supply.

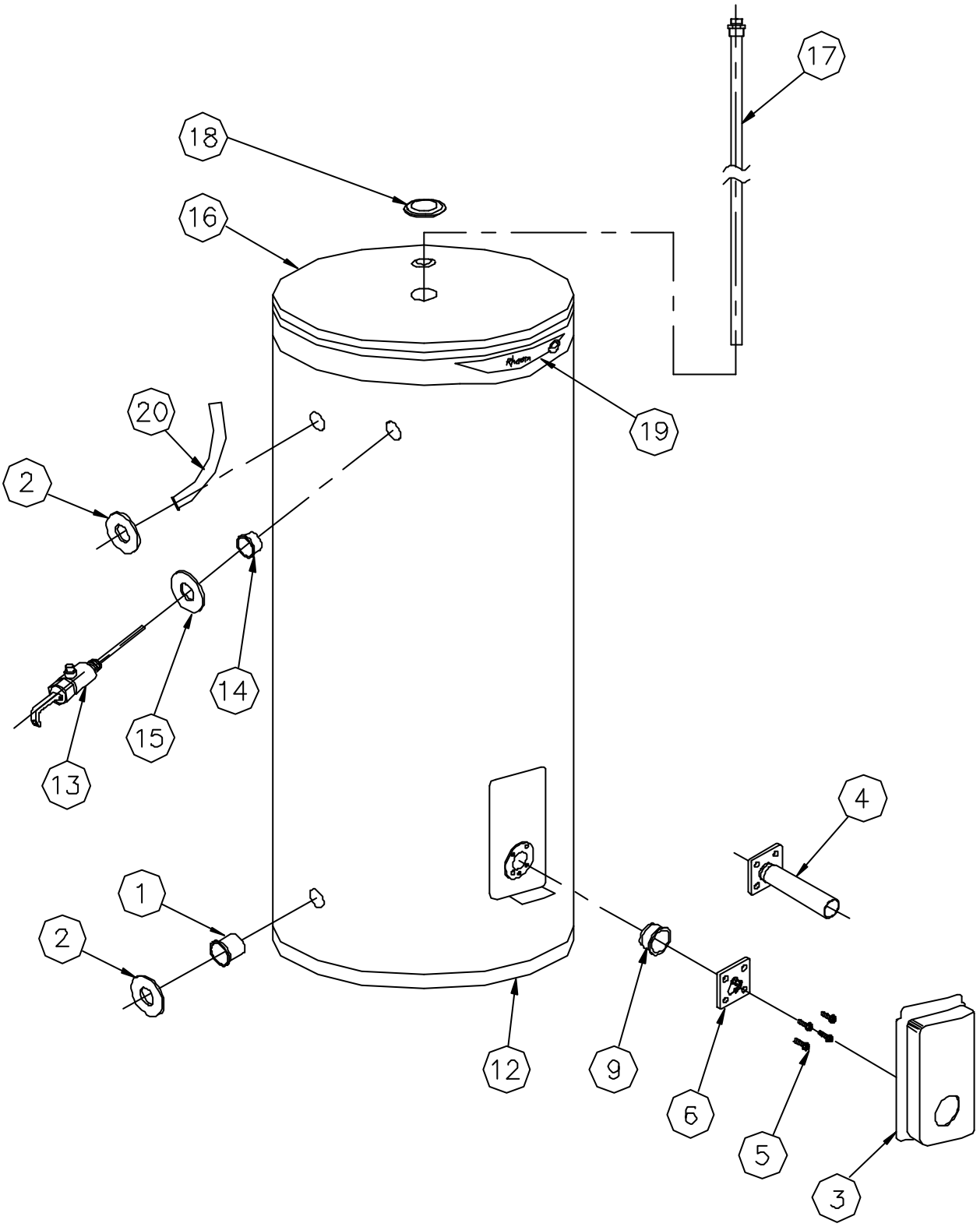
EXPLODED VIEW – THREE ELEMENT MODELS



EXPLODED VIEW – SIX ELEMENT MODELS



EXPLODED VIEW – STORAGE CYLINDER



REPLACEMENT PARTS LIST

Item	Description	613050	613315	616315	610340
1	Fitting Liner – Inlet	229450	229455	229455	229455
2	Pipe Seal – Inlet/Outlet	221406-1	221406-1	221406-1	221406-1
3	Access Cover	103411-1	103511-1	103512-1	100766-1
4	Adaptor Flange and Pipe	NF	NF	NF	299504
5	Element Screw	051404	051404	051404	051404
6	Element Blanking Plate	NF	NF	NF	051005
7	Element (Incoloy)* - 3.6kW	050254	050254	050254	NF
	Element (Incoloy)* - 4.8kW	050255	050255	050255	NF
	Element (Incoloy)* - 6.0kW	050256	050256	050256	NF
8	Thermostat Clamp	102501	102501	102501	NF
9	Element Gasket	050704	050704	050704	050704
10	Thermostat	051314	051334	051334	NF
11	Terminal Block	051510	051510	051706	NF
12	Jacket Bottom	100526-1	100642-1	100642-1	100642-1
13	T & PR Valve (H.T.E 1000kPa)	220604	220604	220604	220604
14	Fitting Liner – T & PR	229460	229460	229460	229460
15	Pipe Seal – T & PR	221392-1	221404-1	221404-1	221404-1
16	Jacket Top	100622-1	100647-1	100647-1	100647-1
17	Anode – Black	222023	222021	222021	221915
	Anode – Blue	222033	222031	222031	221925
	Anode – Green	222037	222035	222035	222015
18	Anode Cover	221720-1	221720-1	221720-1	221720-1
19	Name Band	120493	120492	120492	120491
20	Dip Tube (Outlet)	220510	220511	220511	220511

* Mandatory on all heavy duty models

RHEEM ELECTRIC WATER HEATER WARRANTY - (AUSTRALIA ONLY)

Rheem Australia will:

a) Repair or, if necessary replace any Rheem water heater; or

b) Replace any component (or, if necessary, arrange the installation of a new water heater),
which falls within the Warranty Periods specified below, in accordance with and subject to the following table, conditions and exclusions.

Installation	Models	Period	Warranty
Component and cylinder warranty (from date of installation)			
All installations	All models	12 months	New component or water heater free of charge, including labour**
Inner cylinder warranty (from date of installation)			
Water heater installed in "a single-family domestic premises with a thermostat setting below 76ºC"	Rheemglas	Years 2 and 3	New water heater free of charge, including labour**
		Years 4 and 5	New water heater free of charge with installation and labour costs being the responsibility of the owner.
	Optima and Heavy Duty	Years 2 - 5	New water heater free of charge, including labour**
		Years 6 - 10	New water heater free of charge with installation and labour costs being the responsibility of the owner
Water heater installed in any other than "a single-family domestic premises with a thermostat setting below 76ºC"	Rheemglas	Years 2 and 3	New water heater free of charge with installation and labour costs being the responsibility of the owner
	Optima and Heavy Duty	Years 2 - 5	

Notes:

** Refer to item 4 of warranty conditions.

Rheem Australia reserves the right to transfer fully functional components from the defective water heater to the replacement water heater if required.

WARRANTY CONDITIONS

1. This warranty is applicable only to Rheem water heaters manufactured from 1st January 2001.
2. The water heater must be installed in accordance with the Rheem water heater installation instructions, supplied with the water heater, and in accordance with all relevant statutory and local requirements of the State in which the water heater is to be installed.
3. Where a failed component or water heater is replaced under Warranty, the balance of the original period will remain effective. The replaced part or water heater does not carry a new warranty.
4. Where the water heater is installed outside the boundaries of a metropolitan area as defined by Southcorp or further than 25 km from a regional Southcorp Water Heaters Australia branch office, or an Accredited Service Agent, the cost of transport, insurance and travelling costs between the nearest Southcorp Water Heaters Australia Accredited Service Agent's premises and the installed site shall be the owner's responsibility.
5. The warranty only applies to the water heater and original or genuine company component replacement parts and therefore does not cover any plumbing or electrical parts supplied by the installer and not an integral part of the water heater, e.g. pressure limiting valve; isolation valves; non-return valves; electrical switches; pumps or fuse.
6. The water heater must be sized to supply the hot water demand in accordance with the guidelines in Rheem water heater literature.

WARRANTY EXCLUSIONS

1. REPAIR AND REPLACEMENT WORK WILL BE CARRIED OUT AS SET OUT IN THE RHEEM WATER HEATER WARRANTY ABOVE, BUT THE FOLLOWING EXCLUSIONS MAY CAUSE THE WATER HEATER WARRANTY TO BECOME VOID, AND MAY INCUR A SERVICE CHARGE AND COST OF PARTS.

   a) Accidental damage to the water heater or component including: Acts of God; failure due to misuse; incorrect installation; attempts to repair the water heater other than by a Southcorp Accredited Service Agent or the Southcorp Water Heaters Australia Service Department.

   b) Where it is found there is nothing wrong with the water heater; where the complaint is related to excessive discharge from the temperature and pressure relief valve due to high water pressure; where there is no flow of hot water due to faulty plumbing; where water leaks are related to plumbing and not the water heater components; where there is a failure of gas, electricity or water supplies; where the supply of gas, electricity or water does not comply with relevant codes or acts.

   c) Where the water heater or water heater component has failed directly or indirectly as a result of: excessive water pressure, temperature and/or thermal input or corrosive atmosphere.

   d) Where the water heater is located in a position that does not comply with the Rheem water heater installation instructions or relevant statutory requirements, causing the need for major dismantling or removal of cupboards, doors or walls, or use of special equipment to bring the water heater to floor level.

   e) Repairs to the water heater due to scale formation in the waterways when the water heater has been connected to a harmful water supply as outlined in the Owner's Guide and Installation Instructions booklet.

2. SUBJECT TO ANY STATUTORY PROVISIONS TO THE CONTRARY, THIS WARRANTY EXCLUDES ANY AND ALL CLAIMS FOR DAMAGE TO FURNITURE, WALLS, FOUNDATIONS OR ANY OTHER CONSEQUENTIAL LOSS EITHER DIRECTLY OR INDIRECTLY DUE TO LEAKAGE FROM THE WATER HEATER.

In addition to this warranty, the Trade Practices Act 1974 and similar laws in each state and territory provide the owner under certain circumstances with certain minimum statutory rights in relation to your Rheem water heater. This warranty must be read subject to that legislation and nothing in this warranty has the effect of excluding or restricting those rights.

Rheem Australia Pty Ltd
A.B.N 21 098 823 511

FOR SERVICE TELEPHONE
131 031 AUSTRALIA
0800 657 335 NEW Zealand
or refer local Yellow Pages

NOTE: Every care has been taken to ensure accuracy in preparation of this publication. No liability can be accepted for any consequences, which may arise as a result of its application.